

Congestion Control for Internet Protocol Storage

ABSTRACT OF THE DISCLOSURE

5 A network system for actively controlling congestion to optimize throughput is provided. The network system includes a sending host which is configured to send packet traffic at a set rate. The network system also includes a sending switch for receiving the packet traffic. The sending switch includes an input buffer for receiving the packet traffic at the set rate where the input buffer is actively monitored to ascertain a capacity level. The
10 sending switch also includes code for setting a probability factor that is correlated to the capacity level where the probability factor increases as the capacity level increases and decreases as the capacity level decreases. The sending switch also has code for randomly generating a value where the value is indicative of whether packets being sent by the sending switch are to be marked with a congestion indicator. The sending switch also includes
15 transmit code that forwards the packet traffic out of the sending switch where the packet traffic includes one of marked packets and unmarked packets. The network system also has a receiving end which is the recipient of the packet traffic and also generates acknowledgment packets back to the sending host where the acknowledgment packets are marked with the congestion indicator when receiving marked packets and are not marked with the congestion
20 indicator when receiving unmarked packets. In another example, the sending host is configured to monitor the acknowledgment packets and to adjust the set rate based on whether the acknowledgment packets are marked with the congestion indicator. In a further example, the set rate is decreased every time one of the marked packets is detected and increased when no marked packets are detected per round trip time (PRTT).